IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: **Barilloud et al.**	§	Group Art Unit: **2445**
Serial No. **09/714,724**	§	Examiner: **Swearingen, Jeffrey R.**
Filed: **November 16, 2000**	§	Confirmation No.: **9479**
For: **Method and System for Automatic Load Balancing of Advertised Services by Service Information Propagation Based on User On-Demand Requests**	§	

35525

PATENT TRADEMARK OFFICE
CUSTOMER NUMBER

Commissioner for Patents
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APPEAL BRIEF (37 C.F.R. 41.37)

This brief is in furtherance of the Notice of Appeal, filed in this case on December 19, 2008.

A fee of $540.00 is required for filing an Appeal Brief. Please charge this fee to IBM Corporation Deposit Account No. 09-0447. No additional fees are believed to be necessary. If, however, any additional fees are required, I authorize the Commissioner to charge these fees which may be required to IBM Corporation Deposit Account No. 09-0447.

REAL PARTY IN INTEREST

The real party in interest in this appeal is the following party: International Business Machines Corporation of Armonk, New York.

RELATED APPEALS AND INTERFERENCES

This appeal has no related proceedings or interferences.

STATUS OF CLAIMS

A. TOTAL NUMBER OF CLAIMS IN APPLICATION

The claims in the application are: 1-41

B. STATUS OF ALL THE CLAIMS IN APPLICATION

Claims canceled: 1-2 and 13-36

Claims withdrawn from consideration but not canceled: None

Claims pending: 3-12 and 37-41

Claims allowed: None

Claims rejected: 3-12 and 37-41

Claims objected to: None

C. CLAIMS ON APPEAL

The claims on appeal are: 3-12 and 37-41

STATUS OF AMENDMENTS

An Amendment after the Final Office Action of November 4, 2008, was not filed. Accordingly, the claims on appeal herein are as amended in the Response to Office Action filed July 14, 2008.

SUMMARY OF CLAIMED SUBJECT MATTER

In a highly distributed computational system, the applications that perform operations for a given network service may be dispersed on physical devices throughout the network. Applications on other physical devices that desire access to the given network service must be provided with information on the manner in which a connection to the network service can be obtained. A complete inventory of available networked resources may be distributed throughout the system.

In any given network, the demand for networked resources fluctuates over time. Generally, network management software within the distributed computing system satisfies the demand for network resources using some type of load balancing such that all service requesters eventually get access to the requested service. It is sometimes critical to load balance the demand for services by distributing the request workload across the entire system in order to ensure fair access. The pending claims provide access to a *plurality* of different network *services* in a heterogeneous distributed environment, where demand balancing for network services is achieved architecturally, by having "each client uniquely associated with a *local* service manager", and "each *local* service manager uniquely associated with a *distributed* service manager" to select among available services.

A. CLAIM 3 - INDEPENDENT

The subject matter of Claim 3 is directed to a method of balancing demand for networked services in a distributed data processing system (Specification page 11, lines 1-3; Figure 1, element 110). One or more local service managers within the distributed data processing system are initialized, where each local service manager has information about, and provides access to, networked services defined within a respective local region of the distributed data processing system for clients within the distributed data processing system (Specification page 4, lines 8-11; page 12, lines 12-17; Figure 3, element 322), where each client is uniquely associated with a local service manager (Specification page 4, lines 7-8; Figure 5, elements 561/563; Figure 7, elements 721/723; Figure 8, elements 821/823; Figure 9A-9B, elements 921/923; Figure 10A-10B, elements 1021/1023, 1031/1033 and 1051/1053; Figure 12, elements 1241/1243). In addition, one or more distributed service managers within the distributed data processing system are initialized, where each distributed service manager provides access to networked services to

local service managers within the distributed data processing system (Specification page 4, lines 13-17; page 12, lines 17-23; Figure 3, element 324), where each local service manager is uniquely associated with a distributed service manager (Specification page 4, lines 11-13; page 13, lines 27-28; Figure 6). A request for a networked service - from a local service manager for which the local service manager lacks information – is received at a distributed service manager (Specification page 4, lines 17-24; page 16, lines 27-30; Figure 4C, element 440). A determination is made as to whether the distributed service manager has information about a networked service with one or more characteristics that match one or more parameters in the request for a networked service, by referencing a cache maintained by the distributed service manager which contains information resulting from prior requests for networked services (Specification page 16, line 30 – page 17, line 4; Figure 4C, element 442). Information about a matched networked service is returned (Specification page 18, lines 24-28; Figure 4C, element 456).

GROUND OF REJECTION TO BE REVIEWED ON APPEAL

The ground of rejection to review on appeal is as follows:

A. GROUND OF REJECTION 1

The rejection of Claims 3-12 and 37-41 under 35 U.S.C. § 102(b) as being anticipated by Masters et al. (U.S. Patent No. 5,872,930).

ARGUMENT

A. GROUND OF REJECTION 1 (Claims 3-12 and 37-41)

Claims 3-12 and 37-41 stand rejected under 35 U.S.C. § 102 as being anticipated by Masters et al. (U.S. Patent No. 5,872,930), hereinafter Masters.

At a fundamental level, the problems which the Applicants' invention and the cited Masters reference are seeking to solve are quite different. Applicants are providing access to a *plurality* of different *services* in a heterogeneous distributed environment. In contrast, Masters is providing a *single service*, e-mail, between locations, but providing multiple routes and multiple servers for load balancing purposes.

Per the present claimed features, demand balancing for network services is achieved architecturally, by having "each client uniquely associated with a *local* service manager", and "each *local* service manager uniquely associated with a *distributed* service manager" to select among available services. In contrast, the cited reference to Masters is directed to a message routing technique for e-mail traffic that can be transmitted over a plurality of alternative message routes that connect a pair of sites each having a plurality of servers, by calculating a "cost" associated with each route (See Masters, Abstract). Masters, in column 10, line 59 through column 11, line 14, also teaches a system of servers that each have an instance of a directory service database that defines *which* remote sites are reachable from any particular site and *how* those remote sites may be reached.

In addition, for numerous dependent claims, the Examiner cites a single, short Masters passage as teaching a plurality of different claimed features – in effect stating that a single described feature teaches a plurality of multiple, different claimed features, which Appellants urge is impermissible double-counting.

A prior art reference anticipates the claimed invention under 35 U.S.C. § 102 only if every element of a claimed invention is identically shown in that single reference, arranged as they are in the claims. *In re Bond*, 910 F.2d 831, 832, 15 U.S.P.Q.2d 1566, 1567 (Fed. Cir. 1990). All limitations of the claimed invention must be considered when determining patentability. *In re Lowry*, 32 F.3d 1579, 1582, 32 U.S.P.Q.2d 1031, 1034 (Fed. Cir. 1994). Anticipation focuses on whether a claim reads on the product or process a prior art reference discloses, not on what the reference broadly teaches. *Kalman v. Kimberly-Clark Corp.*, 713 F.2d 760, 218 U.S.P.Q. 781 (Fed.

Cir. 1983). In this case, each and every feature of the presently claimed invention is not identically shown in the cited reference, arranged as they are in the claims.

1. *Claims 3, 5 and 8-11*

Independent claim 3 recites:

> 3. A method of balancing demand for networked services in a distributed data processing system, the method comprising the steps of:
>
> initializing one or more local service managers within the distributed data processing system, wherein each local service manager has information about and provides access to networked services defined within a respective local region of the distributed data processing system for clients within the distributed data processing system, and wherein each client is uniquely associated with a local service manager;
>
> initializing one or more distributed service managers within the distributed data processing system, wherein each distributed service manager provides access to networked services to local service managers within the distributed data processing system, and wherein each local service manager is uniquely associated with a distributed service manager;
>
> receiving, at a distributed service manager, a request for a networked service from a local service manager for which the local service lacks information;
>
> determining whether the distributed service manager has information about a networked service with one or more characteristics that match one or more parameters in the request for a networked service, wherein the determining step is accomplished by reference to a cache maintained by the distributed service manager which contains information resulting from prior requests for networked services; and
>
> returning information about a matched networked service.

As can be seen, per Claim 3 there is one or more local service managers. Characteristics of such one or more *local service managers* includes:

(i) each one has information about networked services defined within a respective local region of the distributed data processing system for clients within the distributed data processing system

(ii) each one provides access to networked services defined within a respective local region of the distributed data processing system for clients within the distributed data processing system

(iii) each client is uniquely associated with a local service manager

There is also one or more distributed service managers. Characteristics of such one or more *distributed service managers* includes:

(i) each one provides access to networked services to the local service managers

(ii) each *local* service manager is uniquely associated with a distributed service manager

Masters fails to teach (or suggest) many of these claimed features, such as both a local service manager and a distributed service manager. For example, in the rejection to the first claimed element regarding the local service manager, in citing column 10, lines 59-67 the Examiner is equating the claimed 'local service managers' with the Masters 'directory service', yet if this is true, this directory service not would be contacting another entity for information - as recited in the third element of claim 3 - since in Masters each directory service has access to the identical database information as any other directory service (Masters col. 11, lines 1-14). Accordingly, Masters does not teach that their directory service (alleged as being equivalent to the claimed local service manager) *receiving, at a distributed service manager, a request for a networked service from a local service manager for which the local service lacks information*.

In the rejection to the second claimed element regarding the distributed service managers, in citing column 11, lines 1-14 the Examiner appears to be equating the claimed 'distributed service managers' with the Masters other 'servers which have a respective copy of the directory service'. However, these other servers do not 'provide access to the networked services' to the 'directory service' (which is alleged as being equivalent to the claimed 'local service manager'). Instead, these other 'servers' use a directory service to locate remote servers (col. 10, lines 61-67).

In the citation allegedly teaching the third claimed element pertaining to receiving, at a distributed service manager, a request for a service from a local service manager, the Examiner cites column 10, lines 59-67 and column 11, line 61 to column 12, line 13. It is urged that the former section at column 10 discusses the 'directory service' which is alleged as being equivalent to the claimed 'local service manager'. In contrast, this 'receiving' aspect of Claim 3 is directed to actions associated with the '*distributed* service manager', which is a different claimed element from the '*local* service manager'. Actions associated with an alleged '*local* services manager' (which the Examiner equates with Masters 'directory service') do not describe any actions being performed by

the alleged '*distributed* services manager.

As to the citation at columns 11 and 12, this passage describes how a server would use a component of the directory service, the site connector, to locate a bridgehead server. This passage does not describe any 'servers' described at col. 11, lines 1-14 (which are alleged as being equivalent to the claimed 'distributed service manager') *receiving a request for a network service from* the 'directory service' described at col. 10, lines 59-67 (which is alleged as being equivalent to the claimed 'local service manager'). Thus, these cited passages do not teach "receiving, at a *distributed* service manager, a request for a networked service from a *local* service manager for which the *local* service manager lacks information", as alleged by the Examiner.

Finally, in rejecting the last two elements pertaining to the associating and returning steps, the Examiner cites the *same* section of Masters that is alleged to teach the 'local service manager'. However, the last two elements of Claim 3 are directed to actions performed by the 'distributed service manager'. The "local service manager" and "distributed service manager" are separate entities in the Applicants' invention, with one having 'information about and provides access to networked services defined within a respective local region of the distributed data processing system for clients within the distributed data processing system', and the other providing 'access to networked services *to local service managers* within the distributed data processing system'.

Therefore, for at least the reasons set forth above, Applicants submit that Masters fails to anticipate claim 3, as Masters fails to teach each and every feature of claim 3.

2. *Claim 4*

Appellants initially urge error in the rejection of Claim 4 for reasons given above with respect to Claim 3 (of which Claim 4 depends upon).

Further with respect to Claim 4 recites that local service manager returns "information about a matching networked service from the local service manager to the requesting client. In Masters, no information is returned to the client – instead, forwarding the e-mail message is totally transparent to the requestor. The cited sections of Masters merely describe the directory service and its component connector object. Importantly, in Applicants' claim language the "requesting client" and the "local service manager" are separate entities, otherwise they would not be separately named.

3. *Claim 6*

Appellants initially urge error in the rejection of Claim 6 for reasons given above with respect to Claim 3 (of which Claim 6 depends upon).

Further with respect to Claim 6, such claim recites the feature of "responsive to a determination that the local service manager does not have information about a matching networked service, forwarding the request for a networked service from the local service manager to a distributed service manager associated with the local service manager." The Office *Action* alleges that this feature is taught by Masters in column 11, lines 1-25. However, this passage of Masters merely teaches managing RPC connections across an email system through use of a site connector. Each instance of the site connector identifies only one remote site and describes the connectivity between the local site and the designated remote site. Separate instances of the connector object exist for each remote site to which a potential connection exists. However, this has nothing to do with making a determination as to whether a local service manager has information regarding a matching network service, or forwarding a requested for a networked service to a distributed service manage in response to the local service manager not having information regarding a matching network service. Applicants have already discussed above that the Examiner has not identified entities in Masters which correspond to the *local* service manager and *distributed* service manager as recited by their claims. Further, no other passage of Masters teaches such a feature. Rather, Masters is directed to sending email messages from a source site to a destination site. Masters teaches that a destination site of the message is always known and that a path to a server in the site is simply selected. Thus, as taught by Masters, assuming *arguendo* that a directory service is analogous to a service manager, all of the service managers must have information about a matching networked service; in addition, all services are identical - e-mail - and thus all must match. Therefore, logically, Masters cannot teach the feature of "responsive to a determination that the local service manager does *not* have information about a matching networked service, *forwarding the request for a networked service* from the local service manager to a distributed service manager associated with the local service manager." Therefore, Masters fails to anticipate claim 6.

In an apparently acknowledgement that these claimed features are not described by the cited reference, the Examiner provides a hypothetical operation – that is not in fact described by the cited reference – that 'If a request is not present in the directory, it will contact the main

directory service so information can be updated'. First, this is pure Examiner speculation, as the cited reference does not teach this main directory service contact. Second, all of the directories are said to be the *same*, so there would be no reason to try and locate a different directory for missing information. Third, even assuming there are other, different directories that could be contacted for missing information, even then such speculation does not establish a teaching of forwarding a *request for a service* from a *local* service manager to a *distributed* service manager associated with such local service manager, as claimed. Thus, it is further shown that Claim 6 has been erroneously rejected under 35 U.S.C. § 102 as there are additional claimed features that are not identically shown in a single reference.

4. ***Claim 7***

Appellants initially urge error in the rejection of Claim 7 for reasons given above with respect to Claim 3 (of which Claim 7 depends upon).

Further with respect to Claim 7, such claim recites the feature of "responsive to a determination that the distributed service manager does not have information about one or more matching networked services, broadcasting the request for a networked service from the distributed service manager to all distributed service managers in the distributed data processing system." The Office Action alleges that this feature is taught by Masters in column 11, lines 1-14 and column 11, line 61 – column 12, line 34. However, these passages of Masters teach (1) the existence of a directory service having a database that describes what remotes sites are reachable and how they are reachable, and (2) a determination being made as to a path from the source to the destination to send an email message.

In contradistinction, claim 7 recites "responsive to a determination that the distributed service manager *does not have information about one or more matching networked services, broadcasting the request for a networked service from the distributed service manager to all distributed service managers* in the distributed data processing system." Nothing in the cited passage of Masters or in any other portion of Masters teaches *broadcasting* the request for a networked service from the distributed service manager *to all distributed service managers in the distributed data processing system.*

Further, as Masters teaches connecting to a site and looking for paths to individual servers within a site, Masters teaches away from broadcasting the request to all distributed service

managers in the distributed data processing system.

In addition, Masters fails to teach that such broadcasting is done in response to "a determination that the distributed service manager *does not have information about one or more matching networked services*," as recited in claim 7. Therefore, Masters fails to teach the feature of "responsive to a determination that the distributed service manager does not have information about one or more matching networked services, broadcasting the request for a networked service from the distributed service manager to all distributed service managers in the distributed data processing system." Thus, Masters fails to anticipate claim 7.

In an apparently acknowledgement that these claimed features are not described by the cited reference, the Examiner provides a hypothetical operation – that is not in fact described by the cited reference – that 'If a request is not present in the directory, it will contact the main directory service so information can be updated'. First, this is pure Examiner speculation, as the cited reference does not teach this main directory service contact. Second, all of the directories are said to be the *same*, so there would be no reason to try and locate a different directory for missing information. Third, even assuming there are other, different directories that could be contacted for missing information, even then such speculation does not establish a teaching of conditionally broadcasting a request for a network service to all distributed service managers, as claimed. Thus, it is further shown that Claim 7 has been erroneously rejected under 35 U.S.C. § 102 as there are additional claimed features that are not identically shown in a single reference.

5. *Claim 12*

Appellants initially urge error in the rejection of Claim 12 for reasons given above with respect to Claim 3 (of which Claim 12 depends upon).

Further with respect to Claim 12, such claim recites that the network metrics are real-time network metrics, and are selected from a group including bottleneck-link speed, round-trip time, and hop count. Appellants respectfully point out that the arbitrary "costs" in Masters are not identical to the "network metrics" recited in the Applicants' claims. Instead, in Masters, the costs are pre-assigned at configuration time and do not represent real-time values of the network metrics (col. 2, lines 22-24), nor are they selected from a group including bottleneck-link speed, round-trip time, and hop count. Thus, it is further shown that Claim 12 has been erroneously rejected under 35

U.S.C. § 102 as there are additional claimed features that are not identically shown in a single reference.

6. *Claim 37*

Appellants initially urge error in the rejection of Claim 37 for reasons given above with respect to Claim 3 (of which Claim 37 depends upon).

Further with respect to Claim 37, such claim recites the features of "configuring the local service manager to not provide access to object request broker (ORB) services that provide internal service and which are valid only in a scope of a local ORB", "configuring the local service manager to provide access to ORB services that are instantiated on each ORB only through requests based on an ORB identifier" and "configuring the local service manager to provide access to ORB services that may be accessed from outside the scope of the local ORB through requests based on both a service specification string and an ORB identifier". Nothing in Masters teaches, suggests, or even hints at such features. Thus, Masters fails to anticipate Claim 37.

In rejecting the "configuring the local service manager to *not* provide access to object request broker (ORB) services that provide internal service and *which are valid only in a scope of a local ORB*" aspect of Claim 37, the Examiner cites Masters column 10, lines 61-64 (see page 3 of the present Office Action dated 11/4/2008). It is urged that this cited passage instead describes a directory service being a repository of information distributed across the LAN that defines *which remote sites are reachable* from a particular site and how those remote sites may be reached. There is no mention of any type of service prevention configuration (configuring ... to *not provide access* to ORB services), as claimed. Thus, it is further shown that Claim 37 has been erroneously rejected under 35 U.S.C. § 102 as there are additional claimed features that are not identically shown in a single reference.

In rejecting the "configuring the local service manager to provide access to ORB services that are instantiated on each ORB *only through requests based on an ORB identifier*" aspect of Claim 37, the Examiner cites Masters column 11, lines 15-25 (see page 3 of the present Office Action dated 11/4/2008). It is urged that this cited passage instead describes a 'site connector' component of the 'directory service'. This 'site connector' describes the *connectivity between the local site and the remote site*. There is no mention of *providing access to services only through requests based on an ORB identifier*, as claimed. Thus, it is further shown that Claim 37 has been

erroneously rejected under 35 U.S.C. § 102 as there are additional claimed features that are not identically shown in a single reference.

In rejecting the "configuring the local service manager to provide access to ORB services that may be accessed from outside the scope of the local ORB through requests based on both a service specification string and an ORB identifier" aspect of Claim 37, the Examiner cites the same passage at Masters column 10, lines 61-64 that was cited in rejecting the first configuring step of Claim 37 (see page 3 of the present Office Action dated 11/4/2008). This is impermissible double counting, as this cited passage does not describe two different *configuration* steps being performed.

It is further urged that this cited passage describes a directory service being a repository of information distributed across the LAN that defines *which remote sites are reachable* from a particular site and how those remote sites may be reached. There is no mention of any type of service configuration where services may be accessed from outside the scope of the local ORB through requests based on *both* (1) a service specification string *and* (2) an ORB identifier. Thus, it is further shown that Claim 37 has been erroneously rejected under 35 U.S.C. § 102 as there are additional claimed features that are not identically shown in a single reference.

7. *Claim 38*

Appellants initially urge error in the rejection of Claim 38 for reasons given above with respect to Claim 3 (of which Claim 38 depends upon).

Further with respect to Claim 38, such claim recites the feature of "determining, based on the request, whether to return a *single* matched network service of the set of matched network services or *the set* of matched network services". Masters does not teach determining whether to return a single matched network service of a set of matched network services or a set of matched network services. Rather, Masters simply returns a single server and a single route for connection to the server.

In rejecting Claim 38, the Examiner cites the same passage at Masters column 10, lines 61-64 that was cited in rejecting the first step of Claim 3 (see page 2 of the present Office Action dated 11/4/2008). This is impermissible double counting, as this cited passage does not describe *both* how to access network services *and* what type of service (a *single* matched network service of the set of matched network services or *the set* of matched network services) to return.

It is further urged that this cited passage describes a directory service being a repository of

information distributed across the LAN that defines *which remote sites are reachable* from a particular site and how those remote sites may be reached. There is no mention of any type *determination being made on what is to be returned* (a *single* matched network service of the set of matched network services or *the set* of matched network services), as per Claim 38. Thus, it is further shown that Claim 38 has been erroneously rejected under 35 U.S.C. § 102 as there are additional claimed features that are not identically shown in a single reference.

8. *Claim 39*

Appellants initially urge error in the rejection of Claim 39 for reasons given above with respect to Claim 3 (of which Claim 39 depends upon).

Further with respect to Claim 39, such claim recites the feature of "a plurality of types of networked services are available in the distributed data processing system, and wherein one of the characteristics of a matching service is a type of service." This feature is neither taught nor suggested by Masters.

In rejecting Claim 39, the Examiner cites the same passage at Masters column 10, lines 61-64 that was cited in rejecting the first step of Claim 3 (see page 2 of the present Office Action dated 11/4/2008). This is impermissible double counting, as this cited passage does not describe *both* how to access network services *and* that one of the characteristics of a matching service is a type of service.

It is further urged that this cited passage describes a directory service being a repository of information distributed across the LAN that defines *which remote sites are reachable* from a particular site and how those remote sites may be reached. There is no mention of a plurality of types of networked services that are available, where one of the matching characteristics of a matching service is a *type of service*. [1] Thus, it is further shown that Claim 39 has been

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[1] type:

NOUN: **1.** A number of people or things having in common traits or characteristics that distinguish them as a group or class. **2.** The general character or structure held in common by a number of people or things considered as a group or class. **3.** A person or thing having the features of a group or class.

Source: The American Heritage® Dictionary of the English Language: Fourth Edition. 2000.

erroneously rejected under 35 U.S.C. § 102 as there are additional claimed features that are not identically shown in a single reference.

9. *Claim 40*

Appellants initially urge error in the rejection of Claim 40 for reasons given above with respect to Claim 3 (of which Claim 40 ultimately depends upon).

Further with respect to Claim 40, such claim recites the feature of "each of distributed service managers caches information resulting from requests of supported clients, and wherein the information which respective distributed service manager differs according to the requests of supported clients." This feature is neither taught nor suggested by Masters.

In rejecting Claim 40, the Examiner cites Masters column 11, lines 4-11 as teaching such information caching (see page 3 of the present Office Action dated 11/4/2008). It is urged that this cited passage makes no mention of any caching of information, or the *caching of information resulting from requests* of supported clients. Instead, it describes that either (1) each server has its own copy of the directory service, or (2) each server have connectivity to an instance of the directory service. There is no mention of any information *resulting from client requests*, or the caching thereof, as claimed. Thus, it is further shown that Claim 40 has been erroneously rejected under 35 U.S.C. § 102 as there are additional claimed features that are not identically shown in a single reference.

In an apparently acknowledgement that this claimed feature is not described by the cited reference, the Examiner provides a hypothetical operation – that is not in fact described by the cited reference – that 'If a request is not present in the directory, it will contact the main directory service so information can be updated'. First, this is pure Examiner speculation, as the cited reference does not teach this main directory service contact. Second, all of the directories are said to be the *same*, so there would be no reason to try and locate a different directory for missing information. Third, even assuming there are other, different directories that could be contacted for missing information, even then such speculation does not establish a teaching of *each of distributed service managers caches information resulting from requests of supported clients*, as claimed. Thus, it is further shown that Claim 40 has been erroneously rejected under 35 U.S.C. § 102 as there are additional claimed features that are not identically shown in a single reference.

10. *Claim 41*

Appellants initially urge error in the rejection of Claim 41 for reasons given above with respect to Claim 3 (of which Claim 41 ultimately depends upon).

Further with respect to Claim 41, such claim recites the feature of "wherein each of the distributed service managers includes a localization module, wherein the parameters within respective localization modules are tailored to provide different load balancing for corresponding distributed service managers." This feature is neither taught nor suggested by Masters.

In rejecting Claim 41, the Examiner cites Masters column 12, lines 35-65 as teaching such localization module being included at each of the distributed service managers, that have tailored parameters to provide for different load balancing (see page 3 of the present Office Action dated 11/4/2008). Appellants urge clear error, as this cited passage describes (1) a system administrator manually assigning cost values for each message transfer agent (MTA), and (2) the summing of the costs associated with each individual MTA. This summing of manually assigned costs does not describe that each of the distributed service managers has a localization module (having tailored parameters to provide different load balancing), as claimed. Thus, it is further shown that Claim 41 has been erroneously rejected under 35 U.S.C. § 102 as there are additional claimed features that are not identically shown in a single reference.

B. CONCLUSION

As shown above, the Examiner has failed to state valid rejections against any of the claims. Therefore, Appellants request that the Board of Patent Appeals and Interferences reverse the rejections. Additionally, Appellants request that the Board direct the examiner to allow the claims.

Date: February 18, 2009

Respectfully Submitted,

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CLAIMS APPENDIX

The text of the claims involved in the appeal is as follows:

3. A method of balancing demand for networked services in a distributed data processing system, the method comprising the steps of:

initializing one or more local service managers within the distributed data processing system, wherein each local service manager has information about and provides access to networked services defined within a respective local region of the distributed data processing system for clients within the distributed data processing system, and wherein each client is uniquely associated with a local service manager;

initializing one or more distributed service managers within the distributed data processing system, wherein each distributed service manager provides access to networked services to local service managers within the distributed data processing system, and wherein each local service manager is uniquely associated with a distributed service manager;

receiving, at a distributed service manager, a request for a networked service from a local service manager for which the local service manager lacks information;

determining whether the distributed service manager has information about a networked service with one or more characteristics that match one or more parameters in the request for a networked service, wherein the determining step is accomplished by reference to a cache maintained by the distributed service manager which contains information resulting from prior requests for networked services; and

returning information about a matched networked service.

4. The method of claim 3 further comprising:

sending a request for a networked service from a requesting client to a local service manager associated with the requesting client; and

returning information about a matching networked service from the local service manager to the requesting client, wherein the matching networked service has characteristics that match parameters in the request for a networked service.

5. The method of claim 3 further comprising:

receiving a request for a networked service at a local service manager; and

determining whether the local service manager has information about a networked service with characteristics that match parameters in the request for a networked service.

6. The method of claim 5 further comprising:

responsive to a determination that the local service manager has information about a matching networked service, returning the information about the matching networked service to the requesting client;

responsive to a determination that the local service manager does not have information about a matching networked service, forwarding the request for a networked service from the local service manager to a distributed service manager associated with the local service manager.

7. The method of claim 3 further comprising:

responsive to a determination that the distributed service manager does not have information about one or more matching networked services, broadcasting the request for a

networked service from the distributed service manager to all distributed service managers in the distributed data processing system;

receiving information about one or more matching networked services at the distributed service manager in response to the broadcast request; and

caching the received information about one or more matching networked services at the distributed service manager.

8. The method of claim 3 further comprising:

in response to a determination that the distributed service manager has information about two or more matching networked services, selecting a single networked service at the distributed service manager.

9. The method of claim 8 further comprising:

performing a load balancing operation at the distributed service manager to select the single networked service.

10. The method of claim 9 further comprising:

comparing network-related metrics during the load balancing operation.

11. The method of claim 10 further comprising:

comparing one or more of network-related metrics associated with a network path between a requesting client and a providing server.

12. The method of claim 11 wherein the network-related metrics are realtime network-related metrics and are selected from a group comprising:

bottleneck-link speed, round-trip time, and hop count.

37. The method of claim 3, further comprising:

configuring the local service manager to not provide access to object request broker (ORB) services that provide internal service and which are valid only in a scope of a local ORB;

configuring the local service manager to provide access to ORB services that are instantiated on each ORB only through requests based on an ORB identifier; and

configuring the local service manager to provide access to ORB services that may be accessed from outside the scope of the local ORB through requests based on both a service specification string and an ORB identifier.

38. The method of claim 3 further comprising:

determining whether the distributed service manager has information about a plurality of networked services with characteristics that match parameters in the request for a networked service and forming a set of matched network services;

determining, based on the request, whether to return a single matched network service of the set of matched network services or the set of matched network services;

responsive to a determination to return a single matched network service, returning information about the single matched networked service from the distributed service manager to the local service manager; and

responsive to a determination to return the set of matched network services, returning

information about the set of matched network services from the distributed service manager to the local service manager.

39. The method of claim 3 wherein a plurality of types of networked services are available in the distributed data processing system, and wherein one of the characteristics of a matching service is a type of service.

40. The method of claim 7 wherein each of the distributed service managers caches information resulting from requests of supported clients, and wherein the information which respective distributed service manager differs according to the requests of supported clients.

41. The method of claim 7 wherein each of the distributed service managers includes a localization module, wherein the parameters within respective localization modules are tailored to provide different load balancing for corresponding distributed service managers.

EVIDENCE APPENDIX

This appeal brief presents no additional evidence.

RELATED PROCEEDINGS APPENDIX

This appeal has no related proceedings.